



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,069	09/16/2003	Sung-Tae Lee	084017.22223	2045

26530 7590 04/10/2007
LADAS & PARRY LLP
224 SOUTH MICHIGAN AVENUE
SUITE 1600
CHICAGO, IL 60604

EXAMINER

DWIVEDI, VIKANSHA S

ART UNIT	PAPER NUMBER
----------	--------------

3746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/663,069

Applicant(s)

LEE, SUNG-TAE

Examiner

Vikansha S. Dwivedi

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.
- 4a) Of the above claim(s) is/are withdrawn from consideration.
- 5) ☐ Claim(s) is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☐ Claim(s) is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other:

DETAILED ACTION

Drawings

The drawing objection is hereby withdrawn in view of amended Figure 6 received on 12/04/2006. These drawings are in compliance with 37 CFR 1.121(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

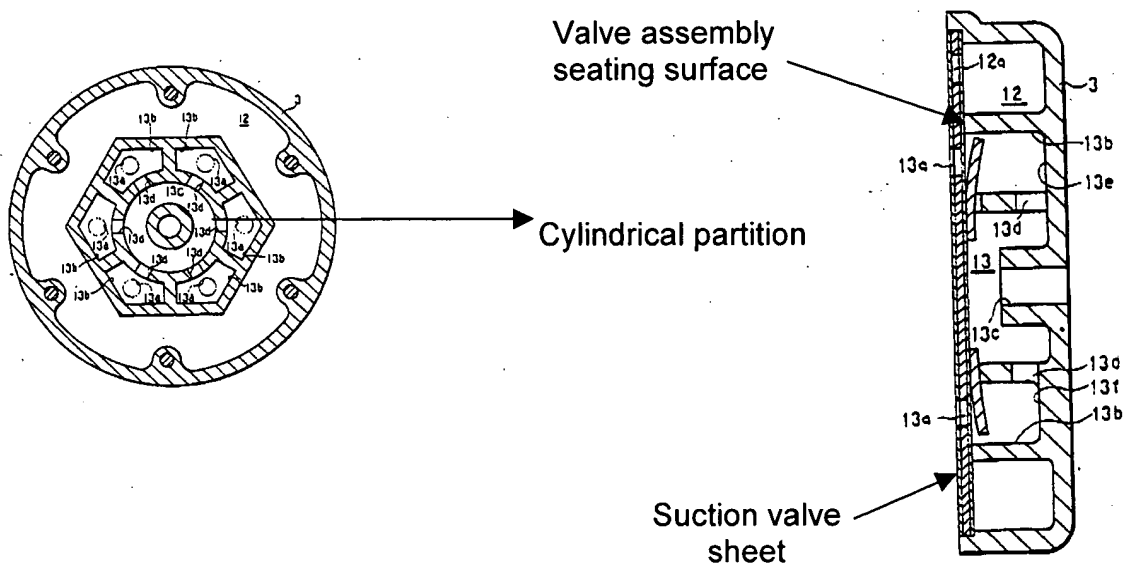
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al (4,930,995). Suzuki et al. teach a cylinder block 1 having a cylinder 1a in which a piston 14 reciprocates; a rear housing 3 (corresponding to the claimed cylinder head) connected to the cylinder block, the rear housing defining an inlet hole 12 and being divided by a cylindrical partition (unnumbered, but clearly illustrated in Figure 2b, also see the figure below) into a first (13) and a second discharge chamber (generally described as element 13b and clearly illustrated in Figure 2c and 2b) that is serving as an outlet path; a valve assembly (unnumbered, but clearly illustrated in Figure 2c) formed between the cylinder block and the cylinder head, the valve assembly controlling refrigerant outlet flow and inlet flow to and from the cylinder. Suzuki et al. further teach a passage 13d (corresponding to the claimed at least one connecting hole) that connects the first and second discharge chambers. As illustrated in Figures 2b and 2c,

Art Unit: 3746

the partition is cylindrical and the space inside being defined as the first discharge chamber, and the space outside being defined as the second discharge chamber; the first discharge chamber having a valve assembly seating surface (see accompanying illustration) and the partition is provided with an inlet path therein formed without connection to the first discharge chamber. Suzuki et al. teach a valve assembly having a valve plate having an inlet port 12a (corresponding to the claimed suction port) for connecting the inlet hole and the cylinder in fluid communication; a exit port 13c (corresponding to the claimed discharge port) for connecting the cylinder and the first discharge chamber in fluid communication; a suction valve sheet (unnumbered but illustrated in the accompanying illustration) having a suction valve for opening and closing the inlet port 12a; a discharge valve sheet having a discharge valve for opening and closing the discharge port.



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (mentioned previously) in view of Ishizuka (4,480,965). Suzuki et al. teach most of the limitations of the claims. They do not, however, explicitly teach the use of a gasket between the discharge valve sheet and the valve assembly seating surface nor a stopper portion of the discharge chamber formed at the same or lower height as the valve assembly seating surface. Ishizuka teaches a gasket 38 "rigidly held between the valve plates 14 and their associated cylinder heads 12 so as to provide fluid tight sealing between the low pressure chambers 34 and adjacent high pressure chambers 36" (column 3, lines 14-17). Ishizuka further illustrates a stopper portion of the discharge chamber formed at the same height as the valve assembly seating surface (where the stopper portion is the lower surface of partition 32a in Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a gasket and discharge chamber stopper portion, as taught by Ishizuka, in the Suzuki et al. invention, in order to advantageously seal the suction and discharge chambers for optimal compressor performance, to prevent refrigerant leakage which

Art Unit: 3746

would have impeded the compressor's operation, and to simplify the compressor's assembly by minimizing the number of parts.

Response to Arguments

Applicant's arguments filed 12/4/2006 have been fully considered but they are not persuasive. Applicant argues that the valve assembly is located between the head and the cylinder block and Suzuki has the valve assembly within the cylinder head. It should be clear that within is used to indicate that somebody or something is enclosed by a place, area, or object, which is not true in case of Suzuki valve assembly, is not enclosed by the cylinder head it is between the head and the cylinder block. To make it clearer, "between" indicates position or interval that separates two things and in this case valve assembly is separating the cylinder head and the cylinder block and it is therefore between the cylinder head and the cylinder block.

Applicant argues that Suzuki does not teach a cylindrical partition separating the two discharge chambers. As explained above Suzuki teaches a cylindrical partition (unnumbered, but clearly illustrated in Figure 2b, also see the figure above) into a first (13) and a second discharge chamber (generally described as element 13b and clearly illustrated in Figure 2c and 2b).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 3746

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikansha S. Dwivedi whose telephone number is 571-272-7834. The examiner can normally be reached on M-F, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3746

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vikansha
VSD

Cheryl Tyler
CHERYL TYLER
SUPERVISORY PATENT EXAMINER